BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Application of	)	PUC Docket 03-0371
	)	
PUBLIC UTILITIES COMMISSION	)	
	)	
Instituting a Proceeding to Investigating Distributed Generation in Hawaii	)	
	)	

LIFE OF THE LAND'S

SIMULTANEOUS INFORMATION REQUESTS TO THE PARTIES AND ACTIVE PARTICIPANTS

ON THEIR WRITTEN DIRECT TESTIMONIES, EXHIBITS AND WORKPAPERS

&

CERTIFICATE OF SERVICE

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In the Matter of the Application of	)	PUC Docket 03-0371
	)	
PUBLIC UTILITIES COMMISSION	)	LOL's Simultaneous Information
	)	Requests to the Parties
Instituting a Proceeding to	)	and Active Participants on
Investigating Distributed Generation	)	Their Written Direct Testimonies,
in Hawaii	)	Exhibits and Workpapers
	)	

July 28, 2004

Aloha,

Simultaneous Information Requests to the Parties and Active Participants on Their Written Direct Testimonies, Exhibits and Workpapers.

A)	Guidelines for Answering Questions		
B)	Questions for DBEDT	LOL-WDT-IR-1	through LOL-WDT-IR-20
C)	Questions for the CA	LOL-WDT-IR-21	through LOL-WDT-IR-25
D)	Questions for the COM	LOL-WDT-IR-26	through LOL-WDT-IR-28
E)	Questions for the KIUC	LOL-WDT-IR-29	through LOL-WDT-IR-30
F)	Questions for The Companies	LOL-WDT-IR-31	through LOL-WDT-IR-56

A) Guidelines for Answering Questions

With respect to the attached information requests, your response should comply with all applicable rules for proceedings before the PUC; Prehearing Order No. 20922; and Hawaii's Rules of Civil Procedure.

The term document refers to all writings and records of every type in your possession, control, or custody, including, but not limited to, memorandum, correspondence, reports (including drafts, preliminary, intermediate, and final reports), studies and all other records, written, electrical, mechanical, and otherwise.

Documents shall also refer to copies of documents, even though the originals are not in your possession, custody, or control, every copy of a document which contains handwritten or other notations or which otherwise do not duplicate the original or any other copy, and all attachments to any documents.

Requests and instructions directed to DBEDT should be construed to include documents in the possession of DBEDT, its employees, affiliates, agents, consultants, contractors, sub-contractors, and attorneys.

When an information request makes reference to specific documentation used by DBEDT to support its response, it is not intended that the response be limited to just the specific document referenced in the request. The response should include any non-privileged memoranda, internal or external studies, assumptions, instructions, draft reports, or any other relevant authoritative supporting documents which DBEDT used.

Should DBEDT claim that any information is not discoverable for any reason, or if any document covered by this request is withheld for any reason, please furnish a list identifying the withheld documents along with the following information: (1) Please identify each document or electronic file, or portions thereof, that DBEDT claims are privileged or will not be disclosed, including the title or subject matter, the date, the author(s) and the addressee(s); (2) Please state all claimed privileges and objections to disclosure; (3) Please state all facts and reasons supporting each claimed privilege and objection; and (4) Please identify the name of each person in DBEDT and each consultant who received a copy of the document.

If there is any ambiguity in interpreting the request, please file a written statement of clarification with LOL, in sufficient time to comply with the response time requirements found in PUC Order 20922.

Above all else, please do not answer a question with a question OR tell us who could answer the question better. For whatever reason, we ask specific questions of specific parties, and that is who we would like to answer the question(s) that we ask.

B) Questions for DBEDT

LOL-WDT-IR-1 Ref: HRS 226-18 (DBEDT Written Testimony: The Department's Basic Position, page 2, lines 9-21) "The Department's advocacy of distributed generation is consistent with the State's statutory energy objectives as outlined in section 226-18, HRS, which states: (a) ... (2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased" Question: (1) Will Hawaii increase its energy self-sufficiency with the implementation of DG? (2) Will total fossil fuel use increase regardless of whether DG capacity is increased or decreased?

LOL-WDT-IR-2 Ref: HRS 226-18 (DBEDT Written Testimony: The Department's Basic Position, page 2, line 9 through page 3, line 4) "The Department's advocacy of distributed generation is consistent with the State's statutory energy objectives as outlined in section 226-18, HRS, which states: (b) To achieve the energy objectives, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable energy services to accommodate demand." Question: (1) What does "reasonable" mean to DBEDT?; (2) Does the term "reasonable" include externalities; (3) If so, how does DBEDT believe that externalities should be evaluated?

LOL-WDT-IR-3 Ref: HRS 226-18 (DBEDT Written Testimony: The Department's Basic Position, page 2, line 9 through page 3, line 4); the Hawaii State Constitution; & the 1978 Constitutional Convention's Committee on Environment, Agriculture, Conservation and Land's Standing Committee Report

Constitution of the State of Hawaii, as amended in 1978:
Article XI. Section 1. For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of

the people. [Add Const Con 1978 and election Nov 7, 1978]

Constitutional Convention of 1978:
"Your Committee on Environment, Agriculture, Conservation and Land ... begs leave to report as follows ... The consensus of your Committee with regard to self-sufficiency was to constitutionally recognize the growing concern and awareness of Hawaii as being overly dependent on outside sources for, among other resources, food and energy. Your Committee spent much time considering the need for a separate section on an energy policy for the State. However, it was concluded that the promotion of energy conservation, the development of clean, renewable sources of energy, and the achievement of increased energy self-sufficiency would be adequately covered by the provisions of this section." **[emphasis added]** (1978 Constitutional Convention's Committee on Environment, Agriculture, Conservation and Land's Standing Committee Report ("SCR") No. 77)

Question: (1) Is DBEDT's position consistent with the State Constitution? (2) Since the Constitution was amended in 1978, how much has Hawaii moved towards energy self-sufficiency? (3) Does DBEDT believe that the constitutional phrasing puts greater weight on the government regarding one or more of the requirements of the Hawaii State Plan? (That is, are one or more subsections authorized not only by HRS but also by the Constitution?)

LOL-WDT-IR-4 Ref: Renewable Energy (DBEDT Written Testimony: The Department's Basic Position, page 3) "Renewable DG systems can also increase energy self-sufficiency"
Question: Under what conditions would renewable DG not increase energy self-sufficiency?

LOL-WDT-IR-5 Ref: Stipulated Prehearing Order Meeting (DBEDT Written Testimony, The Department's Basic Position, page 3) "The Department of Business Economic and Development [sic] represented that it was interested in serving as a resource for technical information for the parties in the proceeding. Based on the representations of the parties, the parties agreed ..."
Question: (1) Didn't all the parties raise concerns about the prospect of having DBEDT present speakers at a conference or a technical meeting under conditions in which the speakers would not be made available for cross-examination? (2) Didn't every single party other than DBEDT at that meeting say 'Thanks But No Thanks'? (3) If DBEDT believes that parties supported a DBEDT conference, please provide all written documentation that supports such a position.

LOL-WDT-IR-6 Ref: Tom Starrs (DBEDT Written Testimony, Section 1, page 4)
In the document cited by DBEDT, Tom Starrs stated: "There will NEVER be a mass market for customer-sited renewables if consumers need an attorney and a consulting engineer to negotiate contracts with utilities." (Tom Starrs: Overview of Interconnection Issues, Slide 20. PDF page 10 of 15)
Question: (1) Does DBEDT support this statement?

LOL-WDT-IR-7 Ref: Tom Starrs (DBEDT Written Testimony, Section 1, page 4)
In the document cited by DBEDT, Tom Starrs stated: "In some cases, [interconnection] fees completely wipe out savings associated with a DG facility." (Tom Starrs: Overview of Interconnection Issues, Slide 25. PDF page 13 of 15.)
Question: Does DBEDT support this statement?

LOL-WDT-IR-8 Ref: Tom Starrs (DBEDT Written Testimony, Section 1, page 4)
In the document cited by DBEDT, Tom Starrs stated: "Conclusion. Costs of interconnection need to be minimized." (Tom Starrs: Overview of Interconnection Issues, Slide 30. PDF page 15 of 15.)
Question: (1) Does DBEDT believe that interconnection costs been minimized? (2) If not, what changes does DBEDT believe are needed?

LOL-WDT-IR-9 Ref: Interconnection Standards (DBEDT Written Testimony, Section 1, pages 4-5) (1) Is DBEDT aware of any studies or analysis that would indicate that standardized interconnection agreements and standardized power purchase agreements lead to savings in time and/or money for ESCO's ? (2) If so, please name all studies, reports, workpapers and analysis that that DBEDT is aware of to indicate this? (3) If DBEDT does not have information on this issue, and/or defers to others with greater expertise, then why did DBEDT cite this document?

LOL-WDT-IR-10 Ref: Interconnection Standards (DBEDT Written Testimony: Section 1, page 6, lines 2-3) "Cost is an important consideration in deciding whether or not to deploy DG."
Question: (1) Does cost include economic impacts such as job creation, economic growth, the economic multiplier effect, balance of trade issues, export expansion, import substitution, foreign investment, and economic leakage? (2) Does cost include environmental impacts such as air pollution, water pollution, toxic waste, and global warming gases? (3) Does costs include social impacts such as environmental justice and cultural impacts? (4) When installing DG in governmental facilities, should the government include any analysis on the proposed installations effect on the state's balance of trade?

LOL-WDT-IR-11 Ref: R. S. Brent (DBEDT Written Testimony: Section 4, page 8, lines 1-2) In the document cited by DBEDT, R.S. Brent stated: "A vertically INTEGRATED utility that installs distributed generation enjoys a variety of benefits." (R. S. Brent: Distributed Generation -- A Fair and Simple Plan for Utilities and Policy Makers, page 3)
Question: (1) Would an ESCO be on a level playing field with a virtually INTEGRATED utility if the virtually INTEGRATED utility has monopolistic benefits from offering DG? (2) How can a level playing field exist if the utility knows its own component costs (generation, transmission & distribution) but an ESCO knows only the utilities total costs? (3) ancillary functions should be unbundled so as to send correct price signals to the market? (4) Does DBEDT support unbundling component (generation, transmission, distribution, ancillary functions) prices so that correct market signals are sent to would-be (potential) market players and/or investors? (5) After reading that the CA supports unbundling of prices, has DBEDT reconsidered its position?

LOL-WDT-IR-12 Ref: R. S. Brent (DBEDT Written Testimony: Section 4, page 8, lines 1-2) In the document cited by DBEDT, R.S. Brent stated: "Our recommendations -- the creation of distributed generation zones, utility-side rate incentives, customer-side distributed generation zonal credits, and the elimination of perverse disincentives to distributed generation development" (R. S. Brent: Distributed Generation -- A Fair and Simple Plan for Utilities and Policy Makers, page 8)
Question: (1) Does DBEDT support incentives to utilities, ESCOs and/or customers? (2) If so, who should fund these incentives?

LOL-WDT-IR-13 Ref: R. S. Brent (DBEDT Written Testimony: Section 4, page 8, lines 1-2) In the document cited by DBEDT, R.S. Brent stated: "It is widely recognized today that a customer that lowers its consumption at peak provides a benefit to other customers by reducing the peak price period. Indeed several markets, including ... have implemented so-called 'demand responses' -- just as a generation unit is paid for supplying energy at peak. These programs recognize that there is no difference between the demand reduction and the supply increase, since both make energy available for other customers to consume. Distributed generation is ideally suited to provide either negawatts (interruptible load) or megawatts (supply) at peak" (R. S. Brent: Distributed Generation -- A Fair and Simple Plan for Utilities and Policy Makers, page 5)
Question: (1) Is there any difference between third parties who (a) increase the supply of electricity, (b) decrease the demand for electricity via energy conservation, energy efficiency and/or on-site generation? (2) Are reliable negawatts equivalent to firm capacity DG?

LOL-WDT-IR-14 Ref: (DBEDT Written Testimony, Section 2, page 6, line 19 through page 7, line 1) DBEDT supports a level playing field relative to the utilities, which could also complement their marketing of energy efficiency standards.
Question: (1) How does DBEDT define the term 'level playing field'; (2) Does a 'level playing field' exist today?; (3) What conditions or actions would lead a 'level playing field' to become to become more slanted (that is, more un-level)?; (4) What conditions or actions would lead a slanted field to become a 'level playing field'? (5) What specific mechanisms does DBEDT support that would promote a 'level playing field'? (6) Would unbundling prices help, hurt or be neutral in efforts to create a level playing field?

LOL-WDT-IR-15 Ref: (DBEDT Written Testimony, Section 2, page 7, lines 21-23)
"DBEDT supports the concept of regulated utility sales of CHP services to utility customers. The caveat is that such utility sales must be in an open, level competitive market."
Question: (1) How does DBEDT define the term 'open, level competitive market'? (2) Does an 'open, level competitive market' exist today?; (3) What conditions or actions would lead an 'open, level competitive market' to become to become less open and/or less level?; (4) What conditions does DBEDT believe would help a closed or slanted market to become an open, level competitive market? (5) What specific mechanisms does DBEDT support that would promote a 'open, level competitive market'? (6) How could an open, level competitive market' exist if the utility knows its own component costs (generation, transmission & distribution) but an ESCO does not know the component costs?

LOL-WDT-IR-16 Ref: Small is Beautiful (DBEDT Written Testimony: Section 5, page 8, line 16)
In the document cited by DBEDT, Amory Lovins et al stated: "Some distributed technologies like solar cells and fuel cells are still made in low volume and can therefore cost more than competing sources. But such distributed sources' increased *value*—due to improvements in financial risk, engineering flexibility, security, environmental quality, and other important attributes—can often more than offset their apparent cost disadvantage." (Small Is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size, By Amory Lovins et al. Rocky Mountain Institute, 2002: Exec Summary (www.smallisprofitable.org/ExecutiveSummary.html)
Question: Does DBEDT agree that value is a better indicator than cost in determining whether to build DG facilities?

LOL-WDT-IR-17 Ref: Small is Beautiful (DBEDT Written Testimony: Section 5, page 8, line 16)
The most valuable distributed benefits typically flow from financial economics—the lower risk of smaller modules with shorter lead times, portability, and low or no fuel-price volatility. These benefits often raise value by most of an order of magnitude (factor of ten) for renewables, and by about 3-5-fold for nonrenewables. (Small Is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size, By Amory Lovins et al. Rocky Mountain Institute, 2002: Exec Summary (www.smallisprofitable.org/ExecutiveSummary.html)
Question: (1) Does DBEDT support this statement; (2) What studies has DBEDT and its consultants conducted in the past 10 years that evaluate these criteria? (3) Does DBEDT believe that state and local governments benefit from DG which is more valuable and more costly than central generation?

LOL-WDT-IR-18 Ref: Small is Beautiful (DBEDT Written Testimony: Section 5, page 8, line 16)
Nearly a dozen other technological, conceptual, and institutional forces are also driving a rapid shift toward the "distributed utility," where power generation migrates from remote plants to customers' back yards, basements, rooftops, and driveways. This transformation promises a vibrantly competitive, resilient, and lucrative electricity sector, at less cost to customers and to the earth—thus fulfilling Thomas Edison's original decentralized vision, just a century late. (Small Is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size, By Amory Lovins et al.

Rocky Mountain Institute, 2002: Exec Summary (www.smallisprofitable.org/ExecutiveSummary.html)
Question: (1) Does DBEDT support this position? (2) What does DBEDT believe are the chief barriers to achieving greater DG penetration levels? (3) What specific barriers would DBEDT be willing to help eliminate?

LOL-WDT-IR-19 Ref: Small is Beautiful (DBEDT Written Testimony, Section 5, page 8, line 16 through page 9, line 13) "There recommendations for states with traditional utility recommendation [sic] are: ... 4. Adopt renewable portfolio standards and tradable credits."
Question: (1) How does DBEDT define 'quantifiable energy conservation measures'?; (2) What is the specific basis for DBEDT's definition of 'quantifiable energy conservation measures'.

LOL-WDT-IR-20. Ref: PUC Stipulated Prehearing Order. All written testimonies are due by July 14, 2004. Please provide an electronic copy of the first draft of the Global Energy Partners DG Study.

C) Questions for the CA

LOL-WDT-IR-21 Ref: "Wind facilities require a large footprint of vacant land located away from the general population" (CA WDT page 17, lines 14-16)
Comments: Windmills co-exist on active agricultural lands and in some urban centers: Maui Community College is putting up a 250 foot windmill on their campus. Urban windmills exist in * Toronto en.wikipedia.org/wiki/Wind_power. * The Lakota Nation * The Netherlands, Germany, Finland, Denmark www.gasandoil.com/goc/news/nte30826.htm. * Macalester College in St. Paul, MN http://news.minnesota.publicradio.org/features/2003/04/23_losurem_turbine/
Question: Do you agree that newer wind farms can coincide with other land uses, including, under some specified conditions, urban facilities?

LOL-WDT-IR-22 Ref: WHAT MUST BE DONE TO IMPLEMENT DG IN AN ORDERLY MANNER? "Next the cost effectiveness of DG technologies for Hawaii's energy market must be analyzed in the context of each electric utility's IRP. Finally, a competitive bid process should be developed for the procurement of additional resources." (CA WDT page 57, lines 19-21)
Question: (1) Wouldn't it make more sense to allow various companies to make bids without first having the utility decide which technologies are cost-effective? (2) Should the competitive bid process allow for bids that would increase supply, decrease load via on-site generation, and/or decrease load via on-site negawatts?

LOL-WDT-IR-23 Ref: WHAT CHANGES TO THE IRP PROCESS ARE NEEDED? "In summary, a DG project should be subject to the same scrutiny, analysis and quantification of externality costs and benefits as would any other resource or DSM measure considered in developing an IRP. Therefore, the DG project should be evaluated in the IRP similarly to other resource alternatives." (CA WDT page 68, lines 1-5) Question: Should economic externalities be analyzed within the IRP process?

LOL-WDT-IR-24 Ref: WHAT ARE THOSE RISKS? "For instance, the purpose of the electric utility owner/operator is to generate energy for sale to its retail customers."
(CA WDT page 69, lines 18-19)
Question: Isn't the purpose of a utility to make a return for their stockers? Isn't this done by building infrastructure, and then recovery the costs plus profits through the rate structure?

LOL-WDT-IR-25 Ref: WHAT ARE THOSE RISKS? "The risk associated with ownership and operation of generating facilities is related to the vested interest of the owner and/or operator of the

generating facility. For instance, the purpose of the electric utility owner/operator is to generate energy for sale to its retail customers. ... On the other hand, a DG that is installed for the primary purpose of serving a customer's energy needs first, and then selling the remainder (or excess) of the energy to the electric utility cannot be considered a reliable energy source for the electric utility, although the facility may serve as a reliable energy source for the customer." (page 69, line 16 through page 70, line 8)
Question: (1) In certain cases, can substation-sited DG provide increased reliability for utility customers? (2) Should substation-sited DG be put out for competitive bid? (3) Can government-owned DG (county, state, federal, military) be 'considered a reliable energy source for the electric utility'?

D) Questions for the COM

LOL-WDT-IR-26 Ref: "First, distributed energy resources have very different social and environmental impacts than do conventional utility resources." (COM-T-2: page 12, lines 14-15) "As Mr. Kobayashi discusses, the benefits of distributed generation on Maui are considerable, and the regulatory role of considering these benefits should not be slighted. To the extent that these benefits accrue to the public, not to the utility, it is natural that the utility may be less than enthusiastic to these options." (COM-T-2: page 13, lines 17-20) "What do you mean when you use the term "social cost?" ... First, it must truly be a "total" cost analysis - considering not only costs incurred by the utility and the customer, but also costs incurred by the public, the society, or the planet." (COM-T-2: page 30, lines 11-12)

Comments (The following documents were sent electronically to each party)

Job Jolt: The Economic Impacts of Repowering the Midwest: The Clean Energy Development Plan for the Heartland. Regional Economics Applications Laboratory for the Environmental Law & Policy Center. (December 2002);

Economic Impact of Renewable Energy in Pennsylvania. Black & Veatch. (March 2004);

The Potential Economic Impact of Nevada's Renewable Energy Resources. Center for Business and Economic Research at the University of Nevada, Las Vegas (2003);

Importing Energy, Exporting Jobs. U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE);

Sustainable Energy Jobs Report. The Allen Consulting Group. Australia (2003);

Analysis of Renewable Portfolio Standard Options for Hawaii. GDS Associates. Hawaii Department of Business, Economic Development, and Tourism (DBEDT) (2001)

Question: Should economic externalities be evaluated within the IRP process? (2) Are you familiar with any economic externality study listed above? (3) What economic externality studies are you familiar with? (4) In general, do facilities utilizing local fuel have a greater positive impact on the local economy than importing fuel from outside of the local area? (5) Please elaborate.

LOL-WDT-IR-27 Ref: "First, I think the Commission needs to adopt generation impact fees so that new customers see the costs of the energy resources they cause to be developed at the time of construction." (COM-T-2: page 17, lines 14-16)
Question: Should the impact fee consist of two parts: (a) the cost of building the new energy facilities; and (b) an environmental justice fee to pay the community that will suffer through the

construction of new central generation facilities and transmission lines?

LOL-WDT-IR-28 Ref: "In general, MECO's current declining block rates that apply to large customers should be replaced with time-of-use rates." (COM-T-2: page 18, lines 15-16)
Question: Should time-of-use rates give greater rewards to those who level their load or to those who switch their load to off-load periods.

E) Questions for the KIUC

LOL-WDT-IR-29 Ref: KIUC''s T&D system was originally designed for the one-way flow of power (KIUC-T-2, page 3, lines 13-15)
Question: (1) Does KIUC have net metered customers? (2) Does KIUC support greater use of net metering?

LOL-WDT-IR-30 Ref: "Using renewables and CHP can directly lead to lower air emissions, offering a positive societal benefit. The intermittent nature of renewables ..." (KIUC-T-2, page 24, lines 19-22)
Question: (1) Wouldn't renewables also have an economic benefit? (2) How much money is exported by KIUC from the island economy each year to buy foreign fossil fuel? (3) Wouldn't renewables keep the money rippling through the local economy (the so-called economic multiplier effect)? (4) Historically, didn't Kauai Electric require the biomass producers to sell electricity at or below 90 percent of KE's avoided cost? (5) Would wave power at Barking Sands be DG?

F) Questions for The Companies

LOL-WDT-IR-31 Ref: "Are there any utilities that offer utility-owned, operated and maintained CHP? Austin Energy ... installs, operates and maintains customer-sited DG and CHP." (HECO T-1, page 20 of 37) "In order for a form of DG to be 'feasible and viable', it must be (1) technically feasible, (2) commercially available, ... Technically feasible: when that technology has been built, tested, and considered as a proven technology by industry peers. 2) Commercially available ... Prototype equipment would not be commercially available. (HECO T-1, page 7 of 37)

"June 14, 2004 News Media Release: Austin Energy to Test Innovative On-Site Generation
Austin Energy and Department of Energy (DOE) officials cut the ribbon today on a prototype power plant that could revolutionize on-site generation for businesses. The plant, called a cooling-heating-power (CHP) facility, will be the largest in the world to test a new technology approach: using the waste heat exhaust from a natural gas-fueled generator as the only fuel source for a chiller that provides air conditioning and heating. The plant is located at the Domain Industrial Park in north Austin. ... The 4.5-megawatt (MW) Domain CHP plant is one of six DOE research projects nationwide involved in testing innovative distributed generation technology."
www.austinenergy.com/About%20Us/Newsroom/Press%20Releases/2004/onsiteGeneration.htm
[emphasis added]

Question: (1) What does HECO believe is the relationship between the following two statements (a) one mainland community-owned electric utility is installing one prototype CHP unit, and (b) HECO, a Hawaii-based Independently Owned Utility (IOU), wants to be the first IOU that gets into the small, on-site business CHP market? (2) Can mainland examples be transferred and adopted in Hawaii?

LOL-WDT-IR-32 Ref: "The Companies' view of the CHP market has evolved over the past 4 to 5 years." (HECO T-1, page 21 of 37). Question: (1) Is HECO using the term 'evolved' correctly? HECO

objected to on-site CHP 5 years ago, and now supports it. (2) Isn't this an about-face, a revolution, rather than a slow evolution?.

LOL-WDT-IR-33 Ref: "Q. Would preventing the Companies' from participating in the CHP market as a regulated entity enhance competition? A. No. This would do the opposite. You would eliminate a CHP alternative that is attractive to the host customer and also provides benefits to other non-participating customers. Ultimately, the customer has fewer choices." (HECO T-1, page 30 of 37).

Comments: The Department of Justice's Horizontal Merger Guidelines (1992) uses the Herfindahl-Hirschman Index (HHI) as a measure of market concentration. HECO referenced the HHI in the recently completed PUC Docket No. 96-0493.

Question: (1) DOES HECO disagree with the DOJ Guideline which uses market concentration and not customer attitudes/desires in analyzing whether competition will be enhanced as a result of proposed business ventures? (2) What is the current HHI level within Hawaii's CHP market? (3) What HHI level does HECO propose for Hawaii's CHP market? (4) Doesn't HECO's CHP Application envision a high HHI?

LOL-WDT-IR-34 Ref: "The positive externalities of distributed generation include the following ...: (HECO T-1, page 34 of 37).
Question: Do positive externalities include price stability; balance of trade issues; and decreasing the leakage of money from the state economy.

LOL-WDT-IR-35 Ref: "Does HECO have experience with PV in Hawaii?" (HECO T-2, page 2 of 26, line 21) Question: (1) Do all 22 PV systems that HECO, MECO & HELCO have experience with total less than 100 kW capacity and less than 0.01% of the peak load?

LOL-WDT-IR-36 Ref: "HECO, HELCO and MECO install PV systems as part of the SPS program?" (HECO T-2, page 3 of 26, lines 23-24) Question: (1) What is the total cost (including costs that were paid by others) of all of these systems combined? (2) What is the average cost per installed kW?

LOL-WDT-IR-37 Ref: "What are the land requirements for large (> 100 kW) PV systems? A. Large PV systems would require about 5 to 10 acres per MW of relatively flat land in a sunny area." (HECO T-2, page 5 of 26, lines 9-11) Question:
Question: (1) Are there 100+ kW systems in Hawaii? (2) Are any of them on the ground? (3) Did HEI's Auditor, KPMG, find that solar could provide 75% of The Netherlands electrical needs? (4) Did the above referenced study find that rooftop solar could provide over 25% of The Netherlands electrical needs?

LOL-WDT-IR-38 Ref: "Neighbors of distributed wind turbine systems may have concerns with aesthetics and potential obstructions to view." (HECO T-2, page 16 of 26, lines 15-16) Question: Please name all fact-based Hawaii-specific documents that support this position for Hawaii-based wind facilities. (Do not include generalized documents that guess that such a statement might be true).

LOL-WDT-IR-39 Ref: "Commercial wind farms, located in remote areas rich in wind resource, may require new power lines if located away from existing infrastructure." (HECO T-2, page 18 of 26, lines 4-5) Question: Please list all proposed Hawaii-based wind farms that are not close to existing infrastructure.

LOL-WDT-IR-40 Ref: "The following renewable DG technologies are not feasible and viable for Hawaii." (HECO T-2, page 21 of 26, line 26) Question: Lava flow watchers who travel to the end of the road in Volcano National Park and then walk towards the lava flows can 'find' the way back to the

road by a blinking light powered by solar. The sign at the solar site states that this solar-powered light is powered by HELCO. (1) Is this light an example of feasible and viable micro DG? (2) Would this facility make your list of feasible and viable DG as found on pages 21-22 of your testimony?

LOL-WDT-IR-41 Ref: "Q. What is the state energy policy in Hawaii? A. The state energy policy has four objectives: 1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; 2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased; 3) Greater energy security in the face of threats to Hawaii's energy supplies and systems; and 4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use." (HECO T-2, page 22 of 26, lines 5-14)
Question: For each objective, do renewables or fossil fuels achieve the objective better? Please elaborate.

LOL-WDT-IR-42 Ref: "Q. What is the state energy policy in Hawaii? A. The state energy policy has four objectives: 1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; 2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased; 3) Greater energy security in the face of threats to Hawaii's energy supplies and systems; and 4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use." (HECO T-2, page 22 of 26, lines 5-14)

Constitution of the State of Hawaii, as amended in 1978:
Article XI. Section 1. For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people. [Add Const Con 1978 and election Nov 7, 1978]

Constitutional Convention of 1978:
"Your Committee on Environment, Agriculture, Conservation and Land ... begs leave to report as follows ... The consensus of your Committee with regard to self-sufficiency was to constitutionally recognize the growing concern and awareness of Hawaii as being overly dependent on outside sources for, among other resources, food and energy. Your Committee spent much time considering the need for a separate section on an energy policy for the State. However, it was concluded that the promotion of energy conservation, the development of clean, renewable sources of energy, and the achievement of increased energy self-sufficiency would be adequately covered by the provisions of this section." **[emphasis added]** (1978 Constitutional Convention's Committee on Environment, Agriculture, Conservation and Land's Standing Committee Report ("SCR") No. 77)

Question: (1) Does HECO believe that the constitutional phrasing puts greater weight on one or more of the requirements of the Hawaii State Plan? (That is, are one or more subsections authorized not only by HRS but also by the Constitution?)

LOL-WDT-IR-43 Ref: "In general, a RPS is designed to require that a specified percentage of the electricity sold by electric utilities be generated from renewable sources such as wind, solar, geothermal, hydropower, biomass and other renewable resources by a specified date." (HECO T-2, page 23 of 26, lines 11-14)
Question: The Companies sell electricity that is generated from renewable and from non-renewable generators. What percentage of the electricity generated is generated from renewable energy generators? That is, what is the percentage of the electricity that the Companies sells is generated by renewable energy facilities. (Please do not answer the question (1) by including electricity not sold by

the utility, or (2) by including systems which do not generate electricity, or (3) by including systems which do not export electricity to the grid)

LOL-WDT-IR-44 Ref: "In general, a RPS is designed to require that a specified percentage of the electricity sold by electric utilities be generated from renewable sources such as wind, solar, geothermal, hydropower, biomass and other renewable resources by a specified date." (HECO T-2, page 23 of 26, lines 11-14)
Question: On average, what percentage of the electricity traveling through The Companies T&D grid is generated from renewable energy resources?

LOL-WDT-IR-45 Ref: "In general, a RPS is designed to require that a specified percentage of the electricity sold by electric utilities be generated from renewable sources such as wind, solar, geothermal, hydropower, biomass and other renewable resources by a specified date." (HECO T-2, page 23 of 26, lines 11-14)

Question: (1) Is the RPS percentage calculated by
[(A1 + A2 + A3 + A4) / (A1 + B)] x 100

where
A1 = Grid-Connected Renewables
A2 = On-Site Renewables
A3 = Efficiencies
A4 = DG/CHP Heat
B = Grid-Connected Fossil Fuels

(all measured in actual, estimated or avoided MWh)

(2) If not, please give the formula that HECO would advocate. (3) Is it really a percentage when the numerator contains units that do not appear in the denominator? (4) Can the RPS 'percentage' exceed 100%?

LOL-WDT-IR-46 Ref: "The goal of the RPS is to ultimately reduce the use of fossil fuels." (HECO T-2, page 24 of 26, line 10)
Question: (1) Is it better to save part of the barrel (say resids) or the whole barrel (lights, mediums, and heavies)? (2) Would saving more of one distillate relative to other distillates lead to the oversupplies or undersupplies of various distillates, and therefore fail to actually decrease the number of barrels needed? (3) Since the ultimate goal is the reduction in the number of barrels needed, does Hawaii's RPS law include fossil fuel saved by all quantifiable energy conservation measures (buildings, vehicles, electricity, transportation)? (4) Does Hawaii's RPS law have a benchmark year from which to measure savings in energy used, that is, from what year should savings from quantifiable energy conservation measures be initiated.

LOL-WDT-IR-47 Ref: "The Legislature took a big picture view and recognized the benefits of saving energy. That's why the RPS law expanded the definition of renewable energy to include the energy saved from efficient generation technologies such as combined heat and power, as well as district cooling, ice storage and energy conservation measures." (HECO T-2, page 24 of 26, lines 15-19)
Question: (1) Does Hawaii's RPS law include all barrels of oil saved? (2) Does this include savings from both the transportation & electricity ("T&E") sectors?

LOL-WDT-IR-48 Ref: "The federal government offers investment tax credits for wind and geothermal." (HECO T-2, page 24 of 26, line 22)
Question: Are there any energy fuels which are not subsidized by the government? If the first part is answered in the affirmative, please identify the fuel and explain how it was determined that the fuel is not subsidized.

LOL-WDT-IR-49 Ref: "HECO, HELCO and MECO have a strategy to increase renewable energy development in Hawaii." (HECO T02, page 25 of 26, lines 13-14)
Question: (1) The electricity that currently travels through The Companies grid is derived from fossil fuel generators and renewable energy facilities. Do the utilities expect that the ratio of renewable electricity divided by total electricity traveling through the Companies' grid will increase in the future? Please elaborate. (2) Is your strategy to define efficiencies and fossil fuels as renewables and then increase the amount of non-grid fossil fuel derived renewables and other efficiencies?

LOL-WDT-IR-50 Ref: "In order for a DG installation to be considered firm capacity, the utility should be able to control the operations and maintenance quality of the installation." (HECO T-3, page 2 of 22, lines 20-22)
Question: (1) Does maintaining control over maintenance require utility ownership and utility maintenance? (2) Does HECO maintain Transmission Lines by hiring subcontractors? (3) Could third-party-owned facilities ever provide firm power to the utility?

LOL-WDT-IR-51 Ref: "Has HECO identified the need for new firm generating capacity? A. Yes, it has. On Oahu ..." (HECO T-3, page 7 of 22, lines 6-7) & "HECO has an urgent need for firm generating capacity." (HECO T-6, page 4 of 13, lines 18-19)." Question: (1) Will HECO upgrades (generator overhauls, etc) increased the capacity of existing utility-owned generations on Oahu? By how much? (2) Are Oahu-based Independent Power Producers increasing or planning to increase the capacity of their QFs? If so, by how much? (3) Does this urgent need take into account current IPP expansion plans? (4) What is the expected capacity increase for H-POWER and for Kalaeloa?

LOL-WDT-IR-52 Ref: "The amount of fossil fuel reduction that might be achievable in Hawaii through the use of distributed generation depends ..." (HECO T-3, page 20 of 22, lines 23-24)
Question: (1) Is it accurate to say that the total amount of fossil fuels that The Companies are anticipating that they will need will increase -- regardless of whether a particular generator decreases its fossil fuel needs? (2) How will the goals of the State Energy Plan be achieved if the total use of fossil fuels for electricity trends upwards into the foreseeable future?

LOL-WDT-IR-53 Ref: "Hawaii's electric utilities cannot just be in the business of offering central station generation, as they have been told ... by regulators" (HECO T-6, page 3 of 13, lines 18-20) Question: Name all specific citations where utility regulators have informed The Companies that they cannot just be in the business of offering central station generation.

LOL-WDT-IR-54 Ref: "These are all utility objectives. Installing, owning, operating and maintaining CHP as a regulated utility will substantially further all of these objectives." (HECO T-6, page 4 of 13, lines 2-4)
Question: What other Independently Owned Utilities (IOUs) has established a proven record of installing, owning, operating and maintaining DG/CHP facilities?

LOL-WDT-IR-56 Ref: "... some customers may install third-party CHP systems rather than continue to wait for regulatory proceedings to conclude in 'due course'." (HECO T-6, page 5 of 13, lines 11-13) Question: Hasn't HECO also said that they may request regulatory approval of specific CHP units without waiting for regulatory decisions in this docket?

Certificate of Service

I hereby certify that I have this date served a copy of the foregoing Information Requests by Life of the Land, Docket Number 03-0371, upon the following parties. Life of the Land hand-delivered the Original plus 8 copies to the PUC; 3 copies to the Consumer Advocate. Life of the Land mailed 2 copies to Alan M. Oshima, Esq. (KIUC); and 1 copy to each of the following parties: Thomas W. Williams, Jr. Esq. (HECO); William Bonnett (HECO); Patsy H. Nanbu (HECO); Alton Miyamoto (KIUC); George T. Aoki, Esq. (TGC); Steven P. Golden (TGC); Gail S. Gilman (TGC); Brian Moto (Maui); Cindy Y. Young (Maui); Kalvin K. Kobayashi (Maui); Warren S. Bollmeier II (HREA); John Crouch (HREA); Rick Reed (HREA); Sandra-Ann Y. H. Wong, Esq. (HESS); Christopher S. Colman (HESS); Michael de'Marci (HESS); Thomas C. Gorak (JCI); Gordon Bull (JCM); Jim Reisch (PMI); Lani D. H. Nakazawa, Esq. (Kauai); Glenn Sato (Kauai); John W. K. Chang, Esq. (DAG); Maurice H. Kaya, P.E. (DBEDT); Steven Alber (DBEDT).

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